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ABSTRACT

These skill standards, developed through a consortium of educational and industry partners in Illinois, serve as guides to workforce preparation program providers to define content for their programs and to employers to establish the skills and standards necessary for job acquisition and performance. The skill standards include the following components for each skill defined: performance area; performance skill; skill standard; and performance elements and assessment criteria. This publication contains skill standards for press operations occupations defined on these eight levels: press supervisor; press operator (sheet); press operator (Web); production worker; press assistant; feeder and roll tender; floor helper; and quality assurance technician. The skill standards are grouped in the following areas: (1) printing safety; (2) paper transfer system (sheet); (3) paper transfer system (Web); (4) basic press operations; (5) ink and inking; (6) preventative maintenance; and (7) quality control. Each area contains 1-14 standards. The following items are appended: glossary; lists of Illinois Occupational Skill Standards and Credentialing Council, Communications/Information Technology Subcouncil, and Press Operations Cluster Standards Development Committee members; Communications/Information Technology Subcouncil Press Operations Cluster Skill Standards Recognition Proposal; and a list of necessary workplace skills. (KC)

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# ILLINOIS

## OCCUPATIONAL SKILL STANDARDS

# PRESS OPERATIONS CLUSTER

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**ILLINOIS OCCUPATIONAL SKILL STANDARDS**
**PRESS OPERATIONS CLUSTER**

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# ILLINOIS OCCUPATIONAL SKILL STANDARDS

# PRESS OPERATIONS CLUSTER

Endorsed for Illinois
By the
Illinois Occupational Skill Standards and
Credentialing Council

## MESSAGE TO ILLINOIS CITIZENS

**Dear Citizens of Illinois:**

Preparing youth and adults to enter the workforce and to be able to contribute to society throughout their lives is critical to the economy of Illinois. Public and private interest in establishing national and state systems of industry-driven skill standards and credentials is growing in the United States, especially for occupations that require less than a four-year college degree. This interest stems from the understanding that the United States will increasingly compete internationally and the need to increase the skills and productivity of the front-line workforce. The major purpose of skill standards is to promote education and training investment and ensure that this education and training enables students and workers to meet industry standards that are benchmarked to our major international competitors.

The Illinois Occupational Skill Standards and Credentialing Council (IOSSCC) has been working with industry subcouncils, the Illinois State Board of Education and other partnering agencies to adopt, adapt and/or develop skill standards for high-demand occupations. Skill standards products are being developed for a myriad of industries, occupational clusters and occupations. This document represents the collaborative effort of the Communications/Information Technology Subcouncil, and the Press Operations Cluster Standards Development Committee.

These skill standards will serve as a guide to workforce preparation program providers in defining content for their programs and to employers to establish the skills and standards necessary for job acquisition. These standards will also serve as a mechanism for communication among education, business, industry and labor.

We encourage you to review these standards and share your comments. This effort has involved a great many people from business, industry and labor. Comments regarding their usefulness in curriculum and assessment design, as well as your needs for in-service and technical assistance in their implementation are critical to our efforts to move forward and improve the documents.

Questions concerning this document may be directed to:

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We look forward to your comments.

Sincerely,

The Members of the IOSSCC


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## THE ILLINOIS PERSPECTIVE

The Illinois Occupational Skill Standards and Credentialing Council (IOSSCC) endorses occupational skill standards and credentialing systems for occupations that (a) require basic workplace skills and technical training, (b) provide a large number of jobs with either moderate or high earnings, and (c) provide career advancement opportunities to related occupations with moderate or high earnings. The nine-member Council was established by the Occupational Skill Standards Act (PA 87-1210). The Council, representing business, industry and labor and working with the Illinois State Board of Education in partnership with the Illinois Community College Board, Illinois Board of Higher Education, Illinois Department of Employment Security and Illinois Department of Commerce and Community Affairs, has created a common vision for workforce development in Illinois.

### Vision

It is the vision of the IOSSCC to develop a statewide system of industry-defined and recognized skill standards and credentials for all major skilled occupations providing strong employment and earnings opportunities in Illinois. Information related to occupational employment and earning opportunities is determined by the Illinois Occupational Information Coordinating Committee (IOICC) in cooperation with business and industry.

### Subcouncils and Standards Development Committees

Under the direction of the Council, and in cooperation with organizations such as the Illinois Chamber of Commerce, the Illinois AFL-CIO, the Illinois Manufacturers' Association, and others, Industry Subcouncils have been formed to review, approve and promote occupational skill standards and credentialing systems. The Industry Subcouncils are Agriculture and Natural Resources; Applied Science and Engineering*; Business and Administrative Information Services; Communications/Information Technology; Construction*; Education and Training Services*; Energy and Utilities*; Financial Services; Health and Social Services; Hospitality; Legal and Protective Services*; Manufacturing; Marketing and Retail Trade; and Transportation, Distribution and Logistics. (*Subcouncils currently being formed.)

The Standards Development Committees, composed of business, labor and education representatives, are experts in the related occupational cluster and work with the product developer to

- Develop or validate occupational skill standards;
- Identify related academic skills;
- Develop or review assessment or credentialing approaches; and
- Recommend endorsement of the standards and credentialing system to the industry subcouncil.

### Expected Benefits for Employers, Educators, Students and Workers

Occupational skill standards and credentialing systems are being developed and promoted by the IOSSCC to improve Illinois' competitiveness. Such standards and credentialing systems provide a common language for employers, workers, students and education and training providers to communicate skill requirements and quality expectations for all major industry and occupational areas.

### For Employers, skill standards will

- Improve employee recruitment and retention by more clearly identifying skill requirements;
- Encourage improved responsiveness and performance of education and training providers;
- Enlarge the pool of skilled workers; and
- Focus attention on the importance of training investment.

**For Education and Training Providers, skill standards will**

- Provide information on all major industries and occupations;
- Contribute to program and curriculum development;
- Strengthen relationships between educators and training providers; and
- Improve career planning.

**For Students and Workers, skill standards will**

- Foster better decision making concerning careers and the training necessary to acquire well-paying jobs;
- Allow more effective communication with employers about what they know and can do; and
- Allow more effective work with employers in career development and skill upgrading.

**IOSSCC Requirements for Occupational Skill Standards**

Any occupational skill standards and credentialing system seeking IOSSCC endorsement must

- Represent an occupation or occupational cluster that meets the criteria for IOSSCC endorsement;
- Address both content and performance standards for critical work functions and activities for an occupation or occupational area;
- Ensure formal validation and endorsement by a representative group of employers and workers within an industry;
- Provide for review, modification and revalidation by an industry group a minimum of once every five years;
- Award credentials based on assessment approaches that are supported and endorsed by the industry and consistent with nationally recognized guidelines for validity and reliability;
- Provide widespread access and information to the general public in Illinois; and
- Include marketing and promotion by the industry in cooperation with the partner state agencies.

**Definitions and Endorsement Criteria**

The definitions and endorsement criteria are designed to promote the integration of existing and future industry-recognized standards, as well as the integration of the Illinois academic and occupational skill standards. Because all skill standards must address the critical work functions and activities for an occupation or industry/occupational area, the Council further defined three major components:

- ***Conditions of Performance:*** The information, tools, equipment and other resources provided to a person for work performance.
- ***Statement of Work:*** A description of the work to be performed by a person.
- ***Performance Criteria:*** The criteria used to determine the required level of performance. These criteria could include product characteristics (e.g., accuracy levels, appearance), process or procedural requirements (e.g., safety, standard professional procedures) and time and resource requirements.

The IOSSCC is currently working with the Illinois State Board of Education and other state agencies to integrate the occupational standards with the Illinois Learning Standards which describe what students should know and be able to do as a result of their education. The Council is also working to integrate workplace skills—problem solving, critical thinking, teamwork, etc.—with both the Learning Standards and the Occupational Skill Standards.

## The Illinois Model

Illinois Occupational Skill Standards describe what people should know and be able to do and how well these skills and knowledge will be demonstrated in an occupational setting. They focus on the most critical work performances for an occupation or occupational area. As seen in the following model, Illinois Occupational Skill Standards contain at least these areas:

- Performance Area
- Performance Skill
- Skill Standard
- Performance Elements
- Performance Assessment Criteria

Illinois Occupational Skill Standards also carry a coding at the top of each page identifying the state, fiscal year in which standards were endorsed, subcouncil abbreviation, cluster abbreviation and standard number. For example, the twenty-fifth skill standard in the Press Operations Cluster, which has been developed by the Communication/Information Technology Subcouncil, would carry the following coding: IL.00.C/IT.POC.25.

A model for Illinois Occupational Skill Standards showing the placement of the coding and providing a description of each area within a standard is contained on the following page.

**SUMMARY OF WORK TO BE PERFORMED. SUMMARY IS BRIEF AND BEGINS WITH AN ACTION VERB.**

IL.FY.SUBCOUNCIL. CLUSTER. STANDARD NO

**PERFORMANCE AREA**

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

A comprehensive listing of the information, tools, equipment and other resources provided to the person(s) performing the work.

### WORK TO BE PERFORMED

An overview of the work to be performed in demonstrating the performance skill standard. This overview should address the major components of the performance. The detailed elements or steps of the performance are listed under "Performance Elements."

### PERFORMANCE CRITERIA

The assessment criteria used to evaluate whether the performance meets the standard. Performance criteria specify product/outcome characteristics (e.g., accuracy levels, appearance, results, etc.) and process or procedure requirements (e.g., safety requirements, time requirements, etc.).

## PERFORMANCE ELEMENTS

Description of the major elements or steps of the overall performance and any special assessment criteria associated with each element.

## PERFORMANCE ASSESSMENT CRITERIA

Listing of required testing, certification and/or licensing.

Product and process used to evaluate the performance of the standard.

### PRODUCT

Description of the product resulting from the performance of the skill standard.

### PROCESS

Listing of steps from the Performance Elements which must be performed or the required order or performance for meeting the standard.

## DEVELOPMENTAL PROCESS

After reviewing the current labor market information, the Communications/Information Technology Subcouncil recommended the development of skill standards for Graphic Communication Technologists. The identified career clusters in Graphic Communication Technology meet the criteria established by the Illinois Occupational Skill Standards Credentialing Council (IOSSCC) for performance skill standard development, education and training requirements, employment opportunities, earnings potential and/or career opportunities. A product developer knowledgeable with graphic communication occupations began the process of performance skill identification. The product developer prepared an outline and framework designed to address the major skills expected in the workplace. The framework addresses skill requirements common to imaging, press, and finishing/distribution units in the printing industry.

Job descriptions from the printing industry and lists of competencies addressed in related educational programs were solicited and received. National Printing Skill & Knowledge Standards Project standards for printing technologists were consulted. Common and accepted references provided reinforcement for the direction given in the framework. Those references included current texts used by educational institutions and the National Printing Skill & Knowledge Standards Project.

A Standards Development Committee composed of workers from the graphic communication field was convened. The framework, initial outline, matrix and draft skill standards were presented to the Standards Development Committee for review, revisions, adjustments and validation in this first meeting. Performance elements were developed using national standards as references. Additional skill standards were developed in accordance with the direction established by the IOSSCC and presented to the Standards Development Committee for review and revision at a second meeting. Graphic Communication educators joined the Standards Development Committee at a third meeting to review consistency in terminology and the assessment criteria. The performance assessment criteria includes a product statement that indicates the outcome or end result of performing the skill and a process statement that identifies the steps of performance that are critical to the outcome and/or a specific sequence that must be followed.

A complete set of skill standards statements was provided to the Subcouncil. At the recommendation of the Subcouncil, copies of the performance skill standards were distributed for further review by selected educators. The Subcouncil also reviewed the materials in depth. Comments submitted by members of the Subcouncil and those requested from outside reviewers have been integrated into the final product. A statement of assumptions accompanies this document to provide context for the standards document.

The Subcouncil recommended that the final skill standards product be presented to the IOSSCC. The Council reviewed the skill standards and met with the product developer, state liaison, chair of the Subcouncil and other business and industry leaders. Based on the review, the IOSSCC voted to endorse the Press Operations Cluster skill standards.

## ASSUMPTIONS FOR PRESS OPERATIONS CLUSTER STANDARDS

**Skill standards statements assume:**

1. Workplace skills (employability skills) are expected of all individuals. Socialization skills needed for work are related to lifelong career experience and are not solely a part of the initial schooling process. These are not included with this set of statements.
2. Specific policies and procedures of the work site will be made known to the individual and will be followed.
3. Time elements outlined for the skill standards result from the experience and consideration of the panel of experts who made up the Standards Development Committee.
4. Skills will progress from simple to complex. Once a skill has been successfully performed, it will be incorporated into more complex skills.
5. Skill standards describe the skill only and do not detail the background knowledge or theory related to the particular skill base. Although the skill standard enumerates steps to successful demonstration, rote approaches to the outcomes are not prescribed.
6. Skill standards include general performance information related to the performance of the skill. Printing companies maintain their own policies and procedures that must be followed.
7. Skill standards do not replace, supersede or substitute for procedure manuals.
8. Facilities are designed to meet safety requirements.
9. Local, state, Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) laws and standards are followed.
10. Personal protective equipment (PPE) is worn at all times in restricted areas.

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## PERFORMANCE SKILL LEVELS

| | PRESS SUPERVISOR | PRESS OPERATOR (SHEET) | PRESS OPERATOR (WEB) | PRODUCTION WORKER | PRESS ASSISTANT | FEEDER/ROLL TENDER | FLOOR HELPER | QUALITY ASSURANCE TECHNICIAN |
|---|---|---|---|---|---|---|---|---|
| **PRINTING SAFETY** | | | | | | | | |
| Adhere to Safety Regulations | • | • | • | • | • | • | • | • |
| Operate the Press Safely | | • | • | • | • | • | • | |
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| Maintain Personal Safety | • | • | • | • | • | • | • | • |
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| Perform Makeready | | • | • | | • | • | | |
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| Prepare Cylinders for Printing | | • | • | | • | • | | |
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## PERFORMANCE SKILL LEVELS

| | PRESS SUPERVISOR | PRESS OPERATOR (SHEET) | PRESS OPERATOR (WEB) | PRODUCTION WORKER | PRESS ASSISTANT | FEEDER ROLL TENDER | FLOOR HELPER | QUALITY ASSURANCE TECHNICIAN |
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| Select and Prepare Inks | • | • | • | | | | | • |
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| Troubleshoot and Maintain Mechanical Devices and Systems | • | • | • | • | | • | • | |
| Adhere to Policy and Procedures | • | • | • | • | • | • | • | • |
| **QUALITY CONTROL** | | | | | | | | |
| Monitor Quality of Product | • | • | • | | | • | • | • |

# ADHERE TO SAFETY STANDARDS/REGULATIONS.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Facility policy and procedures
Hazard Materials Information Sheets (HMIS)
Material Safety Data Sheets (MSDS)
Occupational Safety and Health Administration (OSHA) standards/regulations
Local, state, and federal safety standards/regulations

### WORK TO BE PERFORMED

Adhere to all safety standards/regulations

### PERFORMANCE CRITERIA

All safety standards/regulations are adhered to 100% of the time.

## PERFORMANCE ELEMENTS

1. Comply with HMIS, MSDS and OSHA standards/regulations.
2. Comply with all state, federal and local standards/regulations.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

All safety standards/regulations are adhered to 100% of the time.

### PROCESS

All performance elements for adhering to safety standards/regulations are critical.

# OPERATE THE PRESS SAFELY.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Facility policy and procedures
Local, state, and federal safety standards/regulations

### WORK TO BE PERFORMED

Operate press safely by following standards/regulations.

### PERFORMANCE CRITERIA

The press is operated safely 100% of the time.

Monitoring press safety devices is an ongoing activity.

## PERFORMANCE ELEMENTS

1. Set, inspect, and verify machine safety devices.
2. Use safe operating procedures for presses and press auxiliary equipment (e.g., infrared, electronic beam lamps, etc.).
3. Use appropriate safety practices to remove paper jam-ups.
4. Activate emergency stops on press in order to stop machine at various points during press operation.
5. Identify conditions under which static electricity is a fire danger.
6. Perform setup procedures of add-on control devices.
7. Monitor add-on control devices for proper functioning.
8. Perform shutdown procedures of add-on control devices.
9. Notify immediate supervisor of all safety malfunctions or concerns.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The press is operated in a safe manner at all times.

### PROCESS

All performance elements for operating the press safely are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Facility policy and procedures
Local, state, and federal safety standards/regulations
Appropriate forms and logs

### WORK TO BE PERFORMED

Maintain equipment and facility to meet local, state, and federal safety standards/regulations.

### PERFORMANCE CRITERIA

A safe environment is maintained to meet the safety criteria of local, state, and federal safety standards/regulations 100% of the time.

## PERFORMANCE ELEMENTS

1. Maintain a clean work area.
   a. Dispose of waste appropriately.
   b. Keep alleyways clear.
   c. Clean tools (equipment) after each use.
2. Prevent spills to avoid slippage, prevent fire, and improve efficiency.
3. Comply with standards/regulations for handling and disposal of all solutions (e.g., fountain solution chemicals, inks, washup solutions, etc.).
4. Complete appropriate forms and logs.

## PERFORMANCE ASSESSMENT CRITERIA

All local, state and federal standards/regulations are followed.

### PRODUCT

A safe environment is maintained in the workplace at all times.

### PROCESS

All performance elements for maintaining a safe environment are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Facility policy and procedures
Local, state, and federal safety standards/regulations

### WORK TO BE PERFORMED

Maintain equipment and facility to ensure personal safety.

### PERFORMANCE CRITERIA

Personal safety meets the criteria (e.g., monitoring of noise level, lighting level, etc.) set by local, state, and federal safety standards/regulations.

## PERFORMANCE ELEMENTS

1. Follow safety procedures for each piece of equipment.
2. Take precautions to avoid accidents.
3. Demonstrate steps to be taken in case of injury (e.g., first aid, CPR, etc.).
4. Read and understand safety bulletins and posters.
5. Communicate safety issues by reporting problems and defective safety devices.
6. Report all injuries to supervisor immediately.
7. Report all safety breaches to supervisor.
8. Follow procedures for emergencies.
   a. Fire evacuation
   b. Chemical spill evacuation
   c. Severe weather
   d. Power outage

## PERFORMANCE ASSESSMENT CRITERIA

All local, state and federal standards/regulations are followed.

## PRODUCT

A safe environment is maintained in the workplace at all times.

## PROCESS

All performance elements for maintaining personal safety are critical.

## HANDLE MATERIALS SAFELY.

## PRINTING SAFETY

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Facility policy and procedures
Personal protective equipment (PPE)
Local, state, and federal safety standards/regulations
Appropriate forms

### WORK TO BE PERFORMED

Handle chemicals/materials safely, adhering to local, state, and federal safety standards/regulations.

### PERFORMANCE CRITERIA

Materials are handled according to required safety standards/regulations 100% of the time.

All appropriate forms are accurately completed.

## PERFORMANCE ELEMENTS

1. Secure (or store) chemicals in appropriate locations to prevent accidents, illnesses, burns, fires, and pollution.
2. Dispose of chemicals/materials in appropriate locations to prevent accidents, illnesses, burns, fires, and pollution.
3. Use appropriate PPE to minimize risk of injury while mixing chemical solutions.
4. Complete required forms for chemical disposal.

## PERFORMANCE ASSESSMENT CRITERIA

All local, state and federal standards/regulations are followed.

### PRODUCT

Chemicals/materials are handled in a safe and environmentally friendly manner.

### PROCESS

All performance elements for handling chemicals/materials safely are critical.

# PERFORM LOCKOUT/TAGOUT PROCEDURES.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Facility policy and procedures
Local, state, and federal safety standards/regulations

### WORK TO BE PERFORMED

Perform lockout/tagout procedures.

### PERFORMANCE CRITERIA

A lockout/tagout procedure is performed without error.

The procedure is completed in a safe manner.

The lockout/tagout procedure does not exceed 5 minutes for a minor adjustment (e.g., plate registration).

## PERFORMANCE ELEMENTS

1. Identify activities requiring lockout/tagout.
2. Notify all affected individuals prior to lockout/tagout.
3. Perform lockout/tagout procedures according to local, state and federal standards/regulations.
4. Identify when inch-safe-service method is sufficient.
5. Use inch-safe-service method of alternative protection.
6. Utilize service exceptions to lockout/tagout procedures when needed.
7. Notify all affected individuals upon completion of lockout/tagout.

## PERFORMANCE ASSESSMENT CRITERIA

All local, state and federal standards/regulations are followed.

## PRODUCT

The lockout/tagout procedures are completed according to local, state and federal standards/regulations.

## PROCESS

All performance elements for performing lockout/tagout procedures are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# SET UP THE FEEDER SYSTEM.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Rules and standards/regulations for press operation
Job specifications
Substrate

### WORK TO BE PERFORMED

Set up feeder system of sheetfed press to run substrate.

### PERFORMANCE CRITERIA

The sheets are delivered to the main printing unit straight and accurately.

The feeder system is set up in a safe manner.

The feeder system is set up according to job specifications in 15 minutes.

## PERFORMANCE ELEMENTS

1. Confirm substrate to run according to job specifications.
2. Set the following for effective operation:
   a. Feeder
   b. Pile guides
   c. Tail guides
   d. Table
3. Load sheets onto feed table while making sure pile is square and level.
4. Jog and air substrate to improve feeding through press.
5. Adjust blower and vacuum settings according to substrate being printed.
6. Set sheet separators and double sheet detector for substrate weight and caliper.
7. Set up web-to-sheet converter.
   (Note: If press is equipped with web-to-sheet converter, set it up to cut sheet size for pressrun. Completion time for setup may increase.)
8. Test operation of feeder system to ensure press sheets are delivered to printing unit.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The feeder system is set to meet the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence; however, a different sequence may be used

# SET UP THE INFEED REGISTER SYSTEM.



## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Rules and standards/regulations for press operation
Job specifications

### WORK TO BE PERFORMED

Set up infeed register system of sheetfed press to meet job specifications.

### PERFORMANCE CRITERIA

The infeed register system is set to match the job specifications.

The infeed register system is set up in a safe manner.

The infeed register system is set up according to job specifications in 10 minutes.

## PERFORMANCE ELEMENTS

1. Adjust basic parts of the infeed system, including
   a. Direct system.
   b. Swing-arm system.
   c. Rotary-drum system.
   d. Overfeed system.
   e. Roll-to-sheet feeder system.
2. Set and/or adjust the following parts of infeed register system for a press run:
   a. Front guides
   b. Side guides
   c. Sheet detectors
   d. Wheels and tapes
   e. Sheet/hold-downs (e.g., vacuum, metal tabs)
   f. Insertion device.
3. Run test sheets through the infeed system to verify all components are set and operating correctly.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

Set up of the infeed register system is completed safely and according to job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence; however, a different sequence may be used.

# SET UP THE SHEET TRANSFER AND GUIDING SYSTEM.

## PAPER TRANSFER SYSTEM (SHEET)

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications

### WORK TO BE PERFORMED

Setup sheet transfer and guiding system of sheetfed press to meet job specifications.

### PERFORMANCE CRITERIA

The transfer system of the press is set up to match the job specifications.

The transfer system of the press is set up in a safe manner.

The transfer system of the press is set up in 20 minutes.

## PERFORMANCE ELEMENTS

1. Identify principal methods of sheet transfer and their characteristics.
   a. Chain transfer
   b. Single-drum transfer
   c. Three-drum transfer
   d. Perfecting transfer
   e. Transverter
   f. Air-cushion drum (to reduce marking)
   g. Loose-fitting, ink-repellent cloth net (to reduce marking)
   h. Beaded blanket
2. Set up appropriate transport system (perfecting or straight printing) according to sheet specifications.
3. Set up sheet transport control devices to ensure smooth and stable feeding and registration without marking to substrate.
4. Verify correct functioning of mechanical and electronic sheet detectors.
5. Check proper stock transportation by running test sheets through press in order to confirm substrate passes through to delivery.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The transfer system is set up to match the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence: however, a different sequence may be used.

# SELECT AND HANDLE SUBSTRATES.

## PAPER TRANSFER SYSTEM (SHEET)

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications
Substrate

### WORK TO BE PERFORMED

Select, verify, and handle substrates to meet job specifications.

### PERFORMANCE CRITERIA

The substrate selected meets the job specifications.

The skill is completed in a safe manner.

The substrate is selected and handled in 15 minutes.

## PERFORMANCE ELEMENTS

1. Select and verify paper stock and other substrates in order to meet job specifications.
   a. Grain
   b. Two sidedness
   c. Basis weight
   d. Paper color options
   e. Finish
   f. Coating
2. Identify effects of temperature and humidity on substrates and necessary environmental conditions for storage.
3. Handle paper properly to avoid creases, dents, wrinkles, etc.
4. Paper and other substrate characteristics and conditions affecting quality of print job.
   a. Moisture content
   b. Moisture resistance
   c. Internal strength
   d. Dimensional stability
   e. Printability
   f. Surface strength
   g. Brightness
   h. Whiteness
   i. Reflectiveness
   j. Flatness
   k. Opacity

l. Gloss
m. Smoothness
n. Storage and conditioning
o. Absorbency

5. Recognize paper issues (e.g., piling, linting, picking, blistering, delaminate, bagginess, etc.) and apply appropriate remedies for each.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The substrate is selected and handled according to the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence; however, a different sequence may be used.

# OPERATE THE DELIVERY SYSTEM.

## PAPER TRANSFER SYSTEM (SHEET)

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications

### WORK TO BE PERFORMED

Operate delivery system of sheetfed press to meet job specifications.

### PERFORMANCE CRITERIA

The delivery system is set to receive the substrate according to job specifications.

The delivery system of the press is set up in a safe manner.

The delivery system of the press is set up in 10 minutes.

## PERFORMANCE ELEMENTS

1. Identify delivery devices common to delivery systems and their functions.
   a. Front gates
   b. Fans and slowdowns
   c. De-curler
   d. Infrared dryer
   e. Spray powder
   f. Air knives
   g. Suction wheels/slowdowns
   h. Back jogger
   i. Static eliminator
2. Identify characteristics of both chute and chain delivery systems.
3. Diagnose and correct common issues associated with sheetfed delivery system.
   a. Increased anti-setoff spray
   b. Ink setoff and blocking
   c. Static electricity
   d. Sheets which fail to jog neatly
4. Verify operation of anti-setoff spray powder during pressrun and make adjustments if necessary.
5. Rack/tray printed product as needed.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The product is completed according to the job ticket specifications as it passes through the delivery system during the run.

### PROCESS

The performance elements are numbered to show an appropriate sequence; however, a different sequence may be used.

# SELECT PAPER SUBSTRATES.

## PAPER TRANSFER SYSTEM (WEB)

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Substrates
Job specifications

### WORK TO BE PERFORMED

Select paper substrates listed on job specifications.

### PERFORMANCE CRITERIA

The selected paper substrates meet the job specifications.

The substrates are selected and verified to meet job specifications in ten minutes.

## PERFORMANCE ELEMENTS

1. Select and verify paper stock and other substrates to meet job specifications.
2. Review effects of temperature and humidity on substrates and necessary environmental conditions for storage.
3. Handle substrate to eliminate damage.
4. Identify paper and other substrate characteristics and conditions affecting quality of print job.
   a. Moisture content
   b. Moisture resistance
   c. Internal strength
   d. Dimensional stability
   e. Printability
   f. Surface strength
   g. Grai
   h. Two sidedness
   i. Basis weight
   j. Paper color options
   k. Brightness
   l. Whiteness
   m. Reflectiveness
   n. Flatness
   o. Opacity
   p. Gloss
   q. Smoothness

r. Storage and conditioning
s. Absorbency
t. Coating

5. Identify paper issues (e.g., piling, linting, picking, blistering, delamination, bagginess, etc.) and apply appropriate remedies for each.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The correct substrate is selected and utilized in the final product.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# HANDLE PAPER ROLLS.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications

### WORK TO BE PERFORMED

Handle paper rolls to meet job specifications.

### PERFORMANCE CRITERIA

Paper rolls are handled in a safe manner 100% of the time.

Paper rolls are handled and installed on the press in 15 minutes.

## PERFORMANCE ELEMENTS

1. Utilize manufacturer's roll numbering system.
2. Identify and select good roll quality.
3. Utilize proper equipment for lifting and moving rolls.
4. Transport rolls.
5. Follow manufacturer's directions in storing and moving rolls to ensure safety, prevent damage to rolls, and facilitate loading/installation of rolls onto press.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The paper roll is safely handled and set up according to job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# OPERATE THE INFEED SYSTEM.



## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications

### WORK TO BE PERFORMED

Operate infeed system to meet job specifications.

### PERFORMANCE CRITERIA

Set the infeed system on the press to match the job specifications.

The infeed system is operated in a safe manner.

The time varies according to length of run. This procedure occurs during the press run and is determined by the quantity of product being produced. The initial setup should not exceed 15 minutes.

## PERFORMANCE ELEMENTS

1. Adjust and operate the components of the infeed system and identify their functions.
   a. Shafts
      1. Air
      2. Mechanical
   b. Roll stand
      1. Direct roll loading
      2. Coupling and uncoupling
      3. Splicing
      4. Splice prepping
   c. Braking mechanisms
      1. Pneumatic braking
      2. Infrared braking
      3. Electromechanical braking
      4. Hydraulic braking
      5. Magnetic braking
   d. Festoon
   e. Infeed roller
   f. Web guides
      1. Centering
      2. Aligning
   g. Dancer roller, infeed tension control
2. Operate and adjust automatic registering systems with single and multiple register marks and/or scanning heads.

3. Operate slitters on web systems.
4. Set up, align, and position web path in infeed system and use web guidance control devices.
5. Check and reset paper alignment on ongoing basis.
6. Diagnose causes of tension disturbances and make appropriate corrections.
7. Identify how splices affect printing process.
   a. Recognize details and design considerations of automatic (flying and zero-speed) and manual splicing systems and how each affects web operations.
   b. Identify components and sequence of splice cycle and how they affect control and performance of web press.
   c. Recognize means of preventing web breaks (e.g., proper tracking, proper tension, absence of foreign objects striking the web, etc.) and their importance.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The infeed system is operated according to the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# OPERATE THE DELIVERY SYSTEM.

## PAPER TRANSFER SYSTEM (WEB)

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications

### WORK TO BE PERFORMED

Operate delivery system to meet job specifications.

### PERFORMANCE CRITERIA

The delivery system is set to meet the job specifications.

The delivery system is set in a safe and timely manner.

Time required to complete the skill varies according to the length of the run. This procedure occurs during the pressrun and is determined by the quantity of the product being produced. The initial setup should not exceed 15 minutes.

## PERFORMANCE ELEMENTS

1. Set up and monitor the various delivery systems and recognize each.
   a. Roll to roll
   b. Sheeter
   c. Signature
   d. Inline work
2. Operate inline finishing processes.
3. Operate cutoff controls.
4. Identify types of folders associated with the web press and their characteristics.
   a. Combination
   b. Double-former
   c. Inline
   d. Sheeter
   e. Prefolder
   f. Stackers and bundlers
5. Set up and operate inline finishing equipment.

6. Diagnose common issues associated with web delivery system, understanding how they develop and how to prevent them from developing.
   a. Paper curling
   b. Static electricity
   c. Poor folding
   d. Smudging and scuffing
   e. Wrinkling
   f. Sidelay variations
   g. Gusset wrinkles
   h. Cut-off variations

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The delivery system is set to deliver a product according to the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# PREPARE AND SET UP THE DAMPENING SYSTEM.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Press specifications

### WORK TO BE PERFORMED

Prepare and set up dampening system to press specifications.

### PERFORMANCE CRITERIA

The dampening system is set to press specifications.

The dampening system is set in less than 5 minutes per printing unit.

## PERFORMANCE ELEMENTS

1. Identify function, operation, and basic parts of dampening system.
2. Identify characteristics and composition of dampening solutions and additives.
   a. Ph balance
   b. Conductivity
   c. Tap water/purified water
   d. Effects of substrates
   e. Alcohol/alcohol substitutes
   f. Fountain solution temperature
3. Select dampening solutions and additives for different applications.
4. Select, measure, and mix additives in dampening solution.
5. Set dampening rollers.
6. Use clean dampening rollers to prevent contaminating dampening rollers.
7. Identify and resolve issues related to adjustment of dampening systems.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The dampening system is set up according to the press specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# PERFORM MAKEREADY.



## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

Given the following:

Equipment and supplies
Operation/service manuals
Job specifications

### WORK TO BE PERFORMED

Perform makeready to meet the job specifications.

### PERFORMANCE CRITERIA

The makeready is completed according to job specifications.

The makeready is performed in a safe manner.

The makeready is completed in less than 12 minutes per printing unit.

## PERFORMANCE ELEMENTS

1. Perform makeready steps.
   a. Check customer requirements.
   b. Check paper, ink and proof against plate.
   c. Set sheet-handling and register mechanisms.
   d. Determine and exercise proper web lead (web).
   e. Set feeder and delivery detection devices.
   f. Mount and pack plates.
   g. Check, prepare, and pack new and existing blankets.
   h. Check and prepare dampening and inking systems.
   i. Run press makeready setups.
   j. Make necessary adjustments to register image position.
   k. Check and reset register to company specifications.
   l. Adjust/set color to customer specifications.
   m. Adjust impression pressure.
   n. Perform test run of blank stock (sheet fed).
   o. Rule up sheet.
   p. Appropriately sequence order of inks.
2. Indicate purpose and function of automatic registering systems with single and multiple register marks and/or scanning heads.
3. Store tools and materials appropriately.
4. Retrieve tools and materials, in a timely manner, for makeready operations.
5. Operate press computer console.
6. Diagnose and correct sources of makeready issues within various press components (e.g., plates, side guides, blankets, etc.).

7. Operate the three basic quality control devices for makeready system and review their primary functions.
   a. Process control devices
   b. Diagnostic control devices
   c. Standardization control devices

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The makeready is completed according to the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# PREPARE THE INKING SYSTEM.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications
Press specifications

### WORK TO BE PERFORMED

Prepare inking system to meet press and job specifications.

### PERFORMANCE CRITERIA

The inking system is set to match the press and job specifications.

The inking system is set in a safe and timely manner.

The inking system is set in less than 7 minutes per printing unit.

## PERFORMANCE ELEMENTS

1. Establish proper ink sequence for job, taking into consideration
   a. Type of stock
   b. Coverage required to allow for proper drying
   c. Waste elimination
   d. Marking prevention
   e. Stock characteristics
2. Measure durometer and replace as needed.
3. Prepare inking system according to press and job specifications.
   a. Install rollers
   b. Set roller pressures
   c. Mount and adjust ductor and form rollers
4. Assemble ink fountain and liners.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The inking system is set up to match the press and job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# PREPARE CYLINDERS FOR PRINTING.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Press specifications

### WORK TO BE PERFORMED

Prepare cylinders for printing to meet press specifications.

### PERFORMANCE CRITERIA

The press cylinders are prepared and set to meet the press specifications.

The press cylinders are prepared and set in a safe manner.

The press cylinders are prepared and set in 20 minutes.

## PERFORMANCE ELEMENTS

1. Align cylinder to zero reference points according to press specifications.
2. Identify the relationship between bearer pressure and packing height.
3. Set the impression cylinder squeeze.
4. Determine proper packing by understanding relationship between cylinder undercut and plate and blanket packing and thickness.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The press cylinders are set according to the press specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# INSTALL PLATES.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications
Press specifications

### WORK TO BE PERFORMED

Install plates to meet press and job specifications.

### PERFORMANCE CRITERIA

The plates are installed to match the press and job specification.

The plates are prepared and installed in a safe manner.

The plates are installed on the press in 5 minutes or less per printing unit.

## PERFORMANCE ELEMENTS

1. Prepare litho plates for mounting.
   a. Verify bends.
   b. Compare copy to plate.
   c. Bend plate if needed.
   d. Verify plate sequence.
2. Pack and install plates according to specifications.
3. Make appropriate plate adjustments.
   a. Tension
   b. Lateral position
   c. Circumferential position
   d. Tangical position
4. Make adjustments to control conditions which influence print length (e.g., temperature, paper curve, moisture, curvature of plates, etc.).
5. Apply desensitizers to plates.
6. Gum a plate.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The plates are installed according to the press and job specifications.

### PROCESS

All performance elements for installing plates are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# PREPARE AND INSTALL THE BLANKET FOR PRINTING.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications
Press specifications

### WORK TO BE PERFORMED

Prepare and install blanket for printing to meet press specifications.

### PERFORMANCE CRITERIA

The blankets are prepared and installed to meet the press specifications.

The blankets are prepared and installed in a safe manner.

The blankets are prepared and installed on the press in 10 minutes or less per printing unit.

## PERFORMANCE ELEMENTS

1. Select appropriate blankets according to specifications.
2. Mount blanket-to-blanket bars.
3. Change, install, and pack offset litho blankets.
4. Verify correct blanket tension.
5. Verify proper packing with packing gauge.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The blankets are prepared and installed to the meet press specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# OPERATE THE DRYING SYSTEM.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications
Press specifications

### WORK TO BE PERFORMED

Operate drying system to meet press and job specifications.

### PERFORMANCE CRITERIA

The drying system on the press is operated to meet the press and job specifications.

The drying system is operated in a safe manner.

Time required to complete the skill varies according to the length of run. This procedure occurs during the pressrun and is determined by the quantity of the product being produced. The initial setup should not exceed 5 minutes.

## PERFORMANCE ELEMENTS

1. Communicate and apply knowledge of drying properties and other characteristics associated with specific inks when operating drying syst
   a. Quickset
   b. Heatset
   c. Non-heatset
   d. Ultraviolet (UV)
   e. Electron beam (EB)
   f. Laser
   g. Fluorescent
   h. Fade resistant
   i. Hard dry
   j. Magnetic
   k. Oxidizing
2. Identify press ink drying systems and how their properties affect drying speed.
   a. Ultraviolet (UV)
   b. Infrared (IR)
   c. Air blowing
   d. Floating dryer
   e. Open flame/direct-impingement dryer
   f. High-velocity hot-air dryer
   g. Combustion dryer
   h. Electron beam (EB)

3. Identify variables that affect drying temperature, and their impact on temperature, and apply them during operation.
   a. Speed of press
   b. Weight of web
   c. Amount of ink
   d. Stability of ink
   e. Temperature of dryer
   f. Length of dryer
   g. Flash point of ink
   h. Conductivity of fountain solution
4. Identify components of chill rolls and their functions and requirements.
   a. Variable speed controls
   b. Water temperature controls
   c. Jacketed rolls
   d. Straight inflow/outflow
   e. Baffled (Web Press only)
5. Set up and test run a sheet.
6. Diagnose common issues associated with individual components of drying system in order to prevent problems and/or apply appropriate remedy.
   a. Dryer and chill roll problems
   b. Wet ink
   c. Uneven ink drying
   d. Setoff
   e. Hue change
   f. Reduced gloss
   g. Blistering
   h. Fluting
7. Operate drying system according to specifications.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The drying system is operated according to the press and job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications

### WORK TO BE PERFORMED

Operate press to complete job to meet specifications.

### PERFORMANCE CRITERIA

The final product meets the job specifications.

The press is operated in a safe manner.

Time required to complete the skill varies according to the length of run. This procedure occurs during the pressrun and is determined by the quantity of the product being produced.

## PERFORMANCE ELEMENTS

1. Install on-line auxiliary equipment (e.g., perforators, numbering machines, scorers, coaters, etc.) in order to assist in sheet production process.
2. Monitor basic operation systems of single color and multicolor presses.
   a. Feeding system
   b. Register system
   c. Dampening system
   d. Inking system
   e. Printing system (e.g., plate, blanket, impression cylinders, etc.)
   f. Transfer system
   g. Delivery system
   h. Drying system
3. Adjust, operate, and maintain on-line auxiliary equipment.
4. Set web path.
   a. Follow precautions for maintaining good register system.
   b. Apply knowledge of roll stands.
   c. Set reel braking and web tension control systems.
   d. Check and reset register.
   e. Set automatic registering systems, web guidance and control devices.
   f. Identify methods of turning webs.
   g. Operate slitters on web system.
   h. Identify function of web break detectors.



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## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The press job meets the specifications.

### PROCESS

All performance elements for installing plates are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# MONITOR COLOR QUALITY.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications
Color standards (e.g., color guides, customer approval, company standards, etc.)

### WORK TO BE PERFORMED

Monitor color quality to meet color standards.

### PERFORMANCE CRITERIA

The color quality of the pressrun is monitored to meet the approved color standard.

Time required to complete the skill varies according to length of the run. This procedure occurs during the pressrun and is determined by the quantity of the product being produced. The initial color monitor setup should not exceed 10 minutes.

## PERFORMANCE ELEMENTS

1. Monitor color match and diagnose and correct issues associated with controlling and maintaining appropriate color.
2. Read, evaluate, and adjust tint values, ink hues, ink density and dot gain in relation to substrate.
3. Maintain inking system quality (e.g., avoid impurities, etc.).
4. Recognize and adjust color fit.
5. Identify and discard defective product.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The color quality meets the approved color standards.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# MAINTAIN REGISTER.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

- Equipment and supplies
- Operation/service manuals
- Company standards
- Job specifications

### WORK TO BE PERFORMED

Maintain register to meet job specifications.

### PERFORMANCE CRITERIA

Proper registration is maintained throughout the press operations.

The registration is set in 5 minutes per printing unit.

## PERFORMANCE ELEMENTS

1. Monitor and adjust register system.
2. Identify press capabilities for precision.
3. Identify and interpret register marks.
4. Make adjustments.
5. Diagnose misregister problems.
6. Make appropriate adjustments.
7. Identify and discard defective product.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The registration is set correctly so that the final product meets the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# PERFORM PRESS WASHUP.



## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Facility policy and procedures
Local, state, and federal standards/regulations

### WORK TO BE PERFORMED

Perform press washup according to local, state and federal standards/regulations.

### PERFORMANCE CRITERIA

The press washup is completed according to facility policy and procedures.

The used supplies are disposed of according to local, state and federal standards/regulations.

Time required to complete the skill varies according to the equipment and supplies that are used.

(Example: A two-color press with cleanup attachments should not require more than 45 minutes for press washup.)

## PERFORMANCE ELEMENTS

1. Using approved safety procedures clean press, including ink trays, fountains, water systems, rollers, plates, blankets and cylinders.
2. Identify various conditions affecting use of solvents and cleaning materials for various parts of press (e.g., plate, inking system, dampening system, etc.).
3. Clean and gum plates in order to prevent oxidation.
4. Store plates as appropriate.
5. Maintain dampening roller covering.
6. Demonstrate environmentally sound methods for saving and disposing of supplies.

## PERFORMANCE ASSESSMENT CRITERIA

All local, state and federal standards/regulations are followed.

## PRODUCT

The press washup is completed and supplies disposed of according to local, state and federal standards/regulations.

## PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# PERFORM TROUBLESHOOTING.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job Specifications

### WORK TO BE PERFORMED

Perform troubleshooting to complete printed product according to job specifications.

### PERFORMANCE CRITERIA

The issues are identified and corrected in a safe manner.

Time required to complete the skill varies according to the issues and the required remedies.

## PERFORMANCE ELEMENTS

1. Identify primary causes for various issues arising during pressrun and implement remedies.
   a. Paper problems
   b. Ink problems
   c. Plate problems
   d. Blanket problems
   e. Problems with color and print quality
   f. Positioning of side-guard marks
   g. Register and fit
   h. Plugging of halftones
   i. Dry-up on plate of non-image areas
   j. Excessive inking
   k. Color consistency
   l. Dot gain
   m. Bad paper
   n. Ink and water spots
   o. Trapping
   p. Doubling
   q. Slurring
   r. Blinding
   s. Tinting
   t. Scumming
   u. Out-of-contact spots

v. Plate cracking
w. Plate frame registration
x. Plate wear
y. Plate exposure

2. Identify causes of unintended screen patterns (moiré) and make appropriate corrections to minimize.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

Troubleshooting measures are utilized to complete the printed product according to the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# OPERATE THE INKING SYSTEM.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job Specifications

### WORK TO BE PERFORMED

Operate the inking system.

### PERFORMANCE CRITERIA

The inking system is operated to produce a job that meets specifications.

The inking system is operated in a safe manner.

Time required to complete the skill varies according to the length of the run. This procedure occurs during the pressrun and is determined by the quantity of the product being produced. The initial setup should not exceed 10 minutes per printing unit.

## PERFORMANCE ELEMENTS

1. Set up and adjust basic parts of inking system and identify their functions.
   a. Ink fountains
   b. Ductor and/or metering roller
   c. Oscillating drums
   d. Intermediate rollers
   e. Form rollers
   f. Fountain roller
   g. Antighost rollers
   h. Hickey pickers
2. Achieve proper ink and water balance.
3. Calculate ink consumption.
4. Operate and adjust ink control system as required.
5. Diagnose inking irregularities and make corrections.
   a. Ghosting
   b. Piling
   c. Slow drying
   d. Trapping
   e. Emulsification
   f. Stripping
   g. Back trapping

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The inking system is properly operated to meet the job product specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

## SELECT AND PREPARE INKS.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job Specifications

### WORK TO BE PERFORMED

Select and prepare inks to meet job specifications.

### PERFORMANCE CRITERIA

The specified ink is selected and prepared according to the job specifications.

The time required to select and prepare the inks should not exceed 15 minutes.

## PERFORMANCE ELEMENTS

1. Identify and evaluate impact of certain ink properties on printing reproduction and quality.
   a. Tack
   b. Color strength
   c. Drying time
   d. Opacity
   e. Flow properties
   f. Water resistance
   g. UV (Ultraviolet) coating
   h. Temperature
2. Identify and evaluate composition and properties of [illegible]nks and how each property affects the choice of inks fo[illegible]ular job.
   a. Color consistency (e.g., hue, grayness)
   b. Viscosity and flow
   c. Ink additives
   d. Colorfastness and abrasion resistance
   e. Drying and absorption properties
   f. Optical properties
   g. Toxicity
   h. Drying speed
   i. Odor
   j. Heat resistance
   k. Resistance to chemical attack
   l. Strength and flexibility
   m. Coverage
   n. Tack and body

3. Identify principles of four-color printing.
   a. Subtractive pigment primary colors used for four-color printing and prime functions of each color, including black printer
   b. Gray balance and component in four-color printing and how each is used for color separation
   c. Difference between conventional color separation and stochastic separation
   d. Impact of paper color on appearance of ink color
4. Identify magnetic inks, their properties, purposes, and uses.
5. Identify differences between heat-set and non-heat-set inks (e.g., electron beam, ultraviolet, etc.).
6. Diagnose effects of the following on ink:
   a. Minimum temperature
   b. Coated stocks
   c. Dryer durations
7. Identify characteristics of ink (e.g., high solvent content, etc.) used in web presses and their affect on color and on thickness of ink (Web Press only).
8. Identify properties of solvents and how they affect flow of inking system (Web Press only).
9. Utilize information in steps 1 through 8 to select and prepare ink according to job specifications.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The correct ink is selected and prepared for the pressrun.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

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# SELECT VARNISHES/COATINGS.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job Specifications
Local, state and federal standards/regulations

### WORK TO BE PERFORMED

Select varnishes/coatings to meet job specifications.

### PERFORMANCE CRITERIA

The varnishes/coatings are selected and used according to the job specifications.

The correct varnish/coating is selected to meet job specifications in 5 minutes.

## PERFORMANCE ELEMENTS

1. Identify and select specific varnishes/coatings appropriate for job specifications.
   a. Quickset
   b. Gloss
   c. Overprint varnishes
   d. Wax free
   e. Dull
   f. Satin
   g. High rub
2. Measure viscosity of coating and adjust as needed.
   a. Aqueous
   b. Ultraviolet

## PERFORMANCE ASSESSMENT CRITERIA

All local, state and federal standards/regulations are followed.

## PRODUCT

The inking system is properly operated to meet the job product specifications.

## PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# MIX INKS.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Color guide (e.g., Pantone Matching System (PMS), Specifications for Web Offset Publications (SWOP), etc.)
Color swatch
Job specifications

### WORK TO BE PERFORMED

Mix inks to meet job specifications.

### PERFORMANCE CRITERIA

The correct inks are mixed to meet the job specifications.

Time required to mix the inks varies according to the ink properties.

## PERFORMANCE ELEMENTS

1. Interpret and measure ink according to color guide or color swatch.
2. Determine ink quantity for specified job.
3. Adjust ink formula to meet ink consumption/calculation.
4. Utilize ink additives as needed.
5. Mix printing inks in accordance with job specifications.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The correct ink is mixed to meet the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

## MATCH COLOR.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Color guide (e.g., Pantone Matching System (PMS), Specifications for Web Offset Publications (SWOP), etc.)
Color swatch
Job specifications

### WORK TO BE PERFORMED

Match color to meet job specifications.

### PERFORMANCE CRITERIA

The color is matched according to the job specifications.

Time required to match the color varies according to the color properties.

## PERFORMANCE ELEMENTS

1. Identify conditions affecting accurate color matching.
   a. Light source
   b. Color quality
   c. Color and nature of substrate surface
   d. Smoothness and gloss characteristics of substrate
   e. Ink combination
   f. Thickness of ink film
2. Utilize procedures involved in matching with color standard (e.g., PMS, SWOP, etc.).
3. Identify principle instruments used for measuring colors and the manner in which they measure color.
   a. Densitometer (scanning, reflection)
   b. Colorimeter
   c. Spectrophotometer
4. Adjust color appropriately using above instruments in conjunction with the eyes.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

The color is matched to meet the job specifications

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# TROUBLESHOOT AND MAINTAIN MECHANICAL DEVICES AND SYSTEMS.

## PREVENTATIVE MAINTENANCE

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals

### WORK TO BE PERFORMED

Troubleshoot and maintain mechanical devices and systems.

### PERFORMANCE CRITERIA

Troubleshooting and maintenance of mechanical devices and systems is performed according to the manufacturers' specifications.

The procedure is completed in a safe manner.

Time required to complete the skill varies according to the devices, systems and the maintenance being performed.

## PERFORMANCE ELEMENTS

1. Identify problems with mechanical devices that affect equipment performance (e.g., chains and sprockets, pulleys and belts, cams, gears) and make adjustments.
2. Identify problems associated with air system, including compressors, pumps, and filters and make adjustments.
3. Identify parts needing routine replacement/maintenance.
4. Replace/maintain identified parts.
5. Perform required lubrication of mechanical devices according to manufacturers' specifications.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

Troubleshooting and maintenance are performed on the mechanical devices and systems according to the manufacturers' specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

## ADHERE TO POLICY AND PROCEDURES.

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**PREVENTATIVE MAINTENANCE**

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Preventative Maintenance (PM) schedule
Facility policy and procedures
Local, state, and federal standards/regulations

### WORK TO BE PERFORMED

Adhere to policy and procedures.

### PERFORMANCE CRITERIA

The policy and procedures are adhered to according to the operation/service manuals, and local, state and federal standards/regulations.

## PERFORMANCE ELEMENTS

1. Obtain PM schedule.
2. Follow manufacturers' recommended policy and procedures programs for preventative maintenance.
3. Select, use and maintain correct tools.
4. Follow appropriate safety policies and procedures.
5. Document preventative maintenance performed.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

All policies and procedures are followed.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

# MONITOR QUALITY OF PRODUCT.

## SKILL STANDARD

### CONDITIONS OF PERFORMANCE

**Given the following:**

Equipment and supplies
Operation/service manuals
Job specifications
Quality control procedures
Facility policy and procedures

### WORK TO BE PERFORMED

Utilize quality control devices to monitor quality of product to meet job specifications.

### PERFORMANCE CRITERIA

The product is consistently monitored to meet the job specifications through the use of quality control devices.

## PERFORMANCE ELEMENTS

1. Understand purpose of quality control.
2. Follow quality control procedures.
3. Identify conditions where materials can affect press performance and quality.
   a. Conditions related to paper and board affecting color control
   b. Conditions related to paper and board affecting register
   c. Conditions related to ink transfer and color control
4. Monitor and control print quality characteristics.
   a. Register
   b. Color control
   c. Check set-off
   d. Hickey elimination
   e. Ink film thickness
   f. Quality and condition of substrates
   g. Storage and handling of substrates and other materials
   h. Quality of prepress activities
   i. Maintenance and condition of press
   j. Printing process and in-process inspection
   k. Postpress inspection
5. Record technical data and performance results.
6. Monitor, control and adjust printing process to maintain specified requirements of job ticket.
   a. Consistency of production
   b. Dot gain
   c. Trapping

d. Gray balance
e. Register
f. Ink density
g. Color and color cleanliness
h. Tone values/reproductions
i. Line
j. Reproduction quality (image resolution)

7. Utilize appropriate quality control devices/tools (e.g., densitometer, spectrophotometers, lupe, gloss meter, etc.).
8. Use approved proofs to compare quality of printed product under standard light source.

## PERFORMANCE ASSESSMENT CRITERIA

### PRODUCT

Quality control devices are used to monitor the product to ensure that it meets the job specifications.

### PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

## APPENDIX A — GLOSSARY OF TERMS

| | |
|---|---|
| **Academic Skills** | Skills (and related knowledge) contained in the subject areas and disciplines addressed in most national and state educational standards, including English, mathematics, science, etc. |
| **Assessment** | A process of measuring performance against a set of standards through examinations, practical tests, performance observations and/or the completion of work portfolios. |
| **Content Standard** | A specification of what someone should know or be able to do to successfully perform a work activity or demonstrate a skill. |
| **Critical Work Functions** | Distinct and economically meaningful sets of work activities critical to a work process or business unit which are performed to achieve a given work objective with work outputs that have definable performance criteria. A critical work function has three major components:<br>• **Conditions of Performance:** The information, tools, equipment and other resources provided to a person for a work performance.<br>• **Work to Be Performed:** A description of the work to be performed.<br>• **Performance Criteria:** The criteria used to determine the required level of performance. These criteria could include product characteristics (e.g., accuracy levels, appearance), process or procedure requirements (e.g., safety, standard professional procedures) and time and resource requirements. The IOSSCC requires that these performance criteria be further specified by more detailed individual performance elements and assessment criteria. |
| **Credentialing** | The provision of a certificate or award to an individual indicating the attainment of a designated set of knowledge and skills and/or the demonstration of a set of critical work functions for an industry/occupational area. |
| **Illinois Occupational Skill Standards and Credentialing Council (IOSSCC)** | Legislated body representing business and industry which establishes skill standards criteria, endorses final products approved by the industry subcouncil and standards development committee and assists in marketing and dissemination of occupational skill standards. |
| **Industry** | Type of economic activity, or product or service produced or provided in a physical location (employer establishment). They are usually defined in terms of the Standard Industrial Classification (SIC) system. |

| | |
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| **Industry Subcouncil** | Representatives from business/industry and education responsible for identifying and prioritizing occupations for which occupational performance skill standards are adapted, adopted or developed. They establish standards development committees and submit developed skill standards to the IOSSCC for endorsement. They design marketing plans and promote endorsed skill standards across the industry. |
| **Knowledge** | Understanding the facts, principles, processes, methods and techniques related to a particular subject area, occupation or industry. |
| **Occupation** | A group or cluster of jobs, sharing a common set of work functions and tasks, work products/services and/or worker characteristics. Occupations are generally defined in terms of a national classification system including the Standard Occupational Classification (SOC), Occupational Employment Statistics (OES) and the Dictionary of Occupational Titles (DOT). |
| **Occupational Cluster** | Grouping of occupations from one or more industries that share common skill requirements. |
| **Occupational Skill Standards** | Specifications of content and performance standards for critical work functions or activities and the underlying academic, workplace and occupational knowledge and skills needed for an occupation or an industry/occupational area. |
| **Occupational Skills** | Technical skills (and related knowledge) required to perform the work functions and activities within an occupation. |
| **Performance Standard** | A specification of the criteria used to judge the successful performance of a work activity or the demonstration of a skill. |
| **Product Developer** | Individual contracted to work with the standard development committee, state liaison, industry subcouncil and IOSSCC for the adaptation, adoption or development of skill standards content. |
| **Reliability** | The degree of precision or error in an assessment system so repeated measurements yield consistent results. |
| **Skill** | A combination of perceptual, motor, manual, intellectual and social abilities used to perform a work activity. |
| **Skill Standard** | Statement that specifies the knowledge and competencies required to perform successfully in the workplace. |

| | |
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| **Standards Development Committee** | Incumbent workers, supervisors and human resource persons within the industry who perform the skills for which standards are being developed. Secondary and postsecondary educators are also represented on the committee. They identify and verify occupational skill standards and assessment mechanisms and recommend products to the industry subcouncil for approval. |
| **State Liaison** | Individual responsible for communicating information among all parties (e.g., IOSSCC, subcouncil, standard development committee, product developer, project director, etc.) in skill standard development. |
| **Third-Party Assessment** | An assessment system in which an industry-designated organization (other than the training provider) administers and controls the assessment process to ensure objectivity and consistency. The training provider could be directly involved in the assessment process under the direction and control of a third-party organization. |
| **Validity** | The degree of correspondence between performance in the assessment system and job performance. |
| **Workplace Skills** | The generic skills essential to seeking, obtaining, keeping and advancing in any job. These skills are related to the performance of critical work functions across a wide variety of industries and occupations including problem solving, leadership, teamwork, etc. |

| | |
|---|---|
| **Margaret Blackshere** | AFL-CIO |
| **Judith Hale** | Hale Associates |
| **Michael O'Neill** | Chicago Building Trades Council |
| **Janet Payne** | United Samaritans Medical Center |
| **Gene Rupnik** | Hospitality Industry |
| **Jim Schultz** | Illinois Retail Merchants Association<br>Walgreen Company |
| **Larry Vaughn** | Illinois Chamber of Commerce |

## APPENDIX C

## COMMUNICATIONS/INFORMATION TECHNOLOGY SUBCOUNCIL

| | |
|---|---|
| **Regina Dodero** | Committee Co-Chair<br>Training and Methods Manager<br>Madden Communications, Inc. |
| **Max Dillahunty** | Vice President, Consulting Services<br>Levi, Ray & Shoup, Inc. |
| **Doug Dougherty** | Committee Co-Chair<br>President<br>Illinois Telephone Association |
| **Mike Gilley** | Executive Consultant<br>Hewlett-Packard |
| **Ron Hawks** | Director, Chicago Graphic Arts Institute<br>Graphics Communication International Union (GCIU) |
| **John Highhouse** | Program Director<br>Lincoln Trail College, South Campus |
| **Greg Holcomb** | Director of Human Services<br>Karmak, Inc. |
| **Jeff King** | Education Representative<br>Microsoft, Inc. |
| **Lawrence Kwolek** | Director of Membership Development<br>AEA |
| **Dennis Lyle** | President/CEO<br>Illinois Broadcasters Association |
| **Karon C. McGrath** | Operations Manager, SACWIS Project<br>GetronicsWang |
| **John Maxon** | Vice President and Chief Operations Officer<br>Speedcolor, Inc. |
| **Larry Miller** | Director of Switch Engineering<br>Illinois Consolidated Communications |
| **Daniel A. Reed** | Head of Department of Computer Science<br>University of Illinois at Urbana-Champaign |
| **Candace Renwall** | Executive Director<br>Chicago Software Association |

| | |
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| **Tom Riebok** | Director of Human Resources<br>Fox Valley Press Incorporated |
| **Ron Engstrom** | State Liaison<br>Illinois State Board of Education |

## APPENDIX D

## PRESS OPERATIONS CLUSTER STANDARDS DEVELOPMENT COMMITTEE

| | |
|---|---|
| **Jon Allard** | Press Supervisor<br>Schiele Graphics, Inc. |
| **John Fantle** | Product Manager<br>Holiday Inn Select |
| **Brian Coughlin** | Front Desk Manager<br>Mitsubishi Lithographic Presses |
| **Kirby Floyd** | Offset Technical Service<br>R.R. Donnelley & Sons Company |
| **Mike Lucier** | Offset Technical Service Supervisor<br>R.R. Donnelley & Sons Company |
| **John Maxon** | Vice President and Chief Operations Officer<br>Speedcolor, Inc. |
| **Bob Schmid** | Pressroom Superintendent<br>Argus Press |
| **Frank Svete, Jr.** | Technical Lead<br>Nosco, Inc. |
| **Dennis Carson** | Product Developer<br>Western Illinois University |
| **Ron Engstrom** | State Liaison<br>Illinois State Board of Education |

## APPENDIX E

## COMMUNICATIONS/INFORMATION TECHNOLOGY SUBCOUNCIL PRESS OPERATIONS CLUSTER SKILL STANDARDS RECOGNITION PROPOSAL

### I. Occupational Definition and Justification

#### A. Occupational Definition

The duties of printing press operators vary according to the type of press they operate--offset, gravure, flexography, screen printing, or letterpress. To prepare presses for printing, press operators install and adjust the printing plate and mix the fountain solution. They also adjust the pressure, ink the presses, load the paper, and adjust the press to the paper size. Next, operators check that the paper and ink meet the job requirements. If necessary, they adjust the margins and the flow of ink. Then they feed paper through the press cylinders and adjust the feed and tension controls.

While the presses are running, operators monitor their operation. They make adjustments to correct uneven ink distribution and speed. If the paper jams or tears, operators make repairs quickly. They also keep the paper feeders full. During the run, operators periodically pull printed sheets to check their quality.

Many printing shops are adding computer-controlled presses. With this equipment, operators monitor the printing process on a control panel where they push buttons to make adjustments.

The job titles associated with printing relate to the equipment the worker uses and include Press Supervisor, Press Operators (Sheet & Web), Production Worker, Press Assistant, Feeder/Roll Tender, Floor Helper and Quality Assurance Technician.

#### B. Employment and Earnings Opportunities

##### 1. Education and Training Requirements

The occupations in the Press Operators Cluster require "basic workplace skills and technical training," many of which may be acquired through apprenticeship. Computer knowledge is required to operate newer press equipment.

##### 2. Employment Opportunities

In both Illinois and the nation, the demand for press technologists is expected to grow faster than the average for other occupations in the manufacturing sector. With the advancement of the personal computer, the printing industry is rapidly changing and prepress technologists are replacing some of the traditional positions in the printing trades. In addition, many job openings will result from the need to replace operators who retire or leave the occupation.

### 3. Earnings Opportunities

| | Middle Range Annual Earnings, 1998* |
|---|---|
| Press Supervisor | $30,350 - $49,650 |
| Press Operator (Sheet) | $19,635 - $31,390 |
| Press Operator (Web) | $30,350 - $37,460 |
| Production Worker | $19,900 - $33,990 |
| Feeder/Roll Tender | $19,900 - $33,990 |
| Press Assistant | $19,900 - $33,990 |
| Floor Helper | $17,500 - $26,670 |
| Quality Assurance Technician | $21,010 - $31,870 |

** Middle range is the middle 50%, i.e., one-fourth of persons in the occupation earn below the bottom of the range and one-fourth of persons in the occupation earn above the top of the range.*

*Sources: 1999 Occupational Employment Statistics: Wage Data and Occupational Projections 2006, Illinois Department of Employment Security, Economic Information and Analysis Division; Horizons Career Information System; Encyclopedia of Careers & Vocational Guidance-10th Edition.*

## II. Occupational Standards and Credentials

### A. Occupational Standards

The printing standards were developed for three major occupational clusters:

**Imaging Technologist** is an individual who provides services and support to the printing industry by working with customers, preparing files for imaging and seeing to it that those files and materials are correct before being forwarded to the press technologist.

**Press Technologist** is an individual who provides services and support to the printing industry by receiving the prepared materials from the imaging technologist and printing the specified images on to the correct substrate, as requested by the customer.

**Finishing/Distribution Technologist** is an individual who provides services and support to the printing industry by taking the printed material from the press technologist and finishing/distributing the product as specified by the customer.

Occupational Skill Standards for Press Operators are included in this book. The Finishing/Distribution and Imaging skill standards are available in two additional books.

The national printing standards were adapted to conform to the Illinois Occupational Skill Standards Credentialing Countil (IOSSCC) requirements. The performance standards for these occupational areas contain all the elements required for IOSSCC standards. Future standards revisions or development will also be aligned with the national standards.

### B. Assessment and Credentialing System

The National Printing Skill and Knowledge Standards Project was built upon the need for a volunteer assessment and credentialing system. Valid certification must include both written (knowledge) and practical (performance based) evaluation. National agencies such as Graphic Arts Technical Foundation (GATF) have developed certification programs for press operators.

The Communications/Information Technology Subcouncil recommends that all individuals acquire recognized assessments and credentials when appropriate.

## III. Industry Support and Commitment

### A. Industry Commitment for Development and Updating

1. The Communication/Information Technology Subcouncil and the Standards Development Committee developed these performance skill standards. The development effort utilized the following steps:

   a. Identification of performance skills
   b. Review of resources
   c. Development of draft performance skills
   d. Convening of Standards Development Committee
   e. Validation and approval of performance skills by Standards Development Committee
   f. Review of skill standards by Standards Development Committee
   g. Review and approval of skill standards by subcouncil and practitioners
   h. Endorsement of skill standards by the IOSSCC.

2. A list of Subcouncil and Standards Development Committee members may be seen in Appendixes C and D, respectively.

### B. Industry Commitment for Marketing

The Communications/Information Technology Subcouncil is committed to marketing and obtaining support and endorsements from the leading industry associations impacted by the skill standards. Upon recognition/endorsement of the skill standards by the IOSSCC, the Subcouncil strongly recommends developing and providing an inservice/seminar package for members of the Communications/Information Technology Subcouncil to provide awareness and obtain full industry commitment to the development of a full industry marketing plan.

The Subcouncil encourages the availability of occupational skill standards to the public including students, parents, workers, educators at all levels, employers and industry organizations.

| | |
|---|---|
| **A. Developing an Employment Plan** | 1. Match interests to employment area.<br>2. Match aptitudes to employment area.<br>3. Identify short-term work goals.<br>4. Match attitudes to job area.<br>5. Match personality type to job area.<br>6. Match physical capabilities to job area.<br>7. Identify career information from counseling sources.<br>8. Demonstrate a drug-free status. |
| **B. Seeking and Applying for Employment Opportunities** | 1. Locate employment opportunities.<br>2. Identify job requirements.<br>3. Locate resources for finding employment.<br>4. Prepare a resume.<br>5. Prepare for job interview.<br>6. Identify conditions for employment.<br>7. Evaluate job opportunities.<br>8. Identify steps in applying for a job.<br>9. Write job application letter.<br>10. Write interview follow-up letter.<br>11. Complete job application form.<br>12. Identify attire for job interview. |
| **C. Accepting Employment** | 1. Apply for social security number.<br>2. Complete state and federal tax forms.<br>3. Accept or reject employment offer.<br>4. Complete employee's Withholding Allowance Certificate Form W-4. |
| **D. Communicating on the Job** | 1. Communicate orally with others.<br>2. Use telephone etiquette.<br>3. Interpret the use of body language.<br>4. Prepare written communication.<br>5. Follow written directions.<br>6. Ask questions about tasks. |
| **E. Interpreting the Economics of Work** | 1. Identify the role of business in the economic system.<br>2. Describe responsibilities of employee.<br>3. Describe responsibilities of employer or management.<br>4. Investigate opportunities and options for business ownership.<br>5. Assess entrepreneurship skills. |
| **F. Maintaining Professionalism** | 1. Participate in employment orientation.<br>2. Assess business image, products and/or services.<br>3. Identify positive behavior.<br>4. Identify company dress and appearance standards.<br>5. Participate in meetings in a positive and constructive manner.<br>6. Identify work-related terminology.<br>7. Identify how to treat people with respect. |

| | |
|---|---|
| **G. Adapting to and Coping with Change** | 1. Identify elements of job transition.<br>2. Formulate a transition plan.<br>3. Identify implementation procedures for a transition plan.<br>4. Evaluate the transition plan.<br>5. Exhibit ability to handle stress.<br>6. Recognize need to change or quit a job.<br>7. Write a letter of resignation. |
| **H. Solving Problems and Critical Thinking** | 1. Identify the problem.<br>2. Clarify purposes and goals.<br>3. Identify solutions to a problem and their impact.<br>4. Employ reasoning skills.<br>5. Evaluate options.<br>6. Set priorities.<br>7. Select and implement a solution to a problem.<br>8. Evaluate results of implemented option.<br>9. Organize workloads.<br>10. Assess employer and employee responsibility in solving a problem. |
| **I. Maintaining a Safe and Healthy Work Environment** | 1. Identify safety and health rules/procedures.<br>2. Demonstrate the knowledge of equipment in the workplace.<br>3. Identify conservation and environmental practices and policies.<br>4. Act during emergencies.<br>5. Maintain work area.<br>6. Identify hazardous substances in the workplace. |
| **J. Demonstrating Work Ethics and Behavior** | 1. Identify established rules, regulations and policies.<br>2. Practice cost effectiveness.<br>3. Practice time management.<br>4. Assume responsibility for decisions and actions.<br>5. Exhibit pride.<br>6. Display initiative.<br>7. Display assertiveness.<br>8. Demonstrate a willingness to learn.<br>9. Identify the value of maintaining regular attendance.<br>10. Apply ethical reasoning. |
| **K. Demonstrating Technological Literacy** | 1. Demonstrate basic keyboarding skills.<br>2. Demonstrate basic knowledge of computing.<br>3. Recognize impact of technological changes on tasks and people. |
| **L. Maintaining Interpersonal Relationships** | 1. Value individual diversity.<br>2. Respond to praise or criticism.<br>3. Provide constructive praise or criticism.<br>4. Channel and control emotional reactions.<br>5. Resolve conflicts.<br>6. Display a positive attitude.<br>7. Identify and react to sexual intimidation/harassment. |
| **M. Demonstrating Teamwork** | 1. Identify style of leadership used in teamwork.<br>2. Match team member skills and group activity.<br>3. Work with team members.<br>4. Complete a team task.<br>5. Evaluate outcomes. |

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